

Reducing Injury Deaths

In recent years, injury deaths and their causes have begun to receive attention as a major public health problem--this attention is long overdue. This year one in four Americans will have a potentially preventable injury serious enough to require medical attention. Injuries result in 4.3 million potential years of life lost prematurely before the age of 70.

Injury deaths are divided into two distinct categories. The first category, *intentional injury* death, is death that occurs as a result of a willful act of an individual. This category includes self-inflicted deaths or suicide and deaths caused by a deliberate interpersonal violent act or homicide. The second category, *unintentional injury* death, is death that has occurred as a result of an accident and is not associated with the willful act of another individual.

Violent, abusive, and self-destructive behaviors continue to be a major cause of death, injury, and stress in the United States. Between 1985 and 1995, over 50,000 deaths have occurred annually as a result of homicide and suicide. In recent years, victims of violence have exceeded 2 million persons annually. It is apparent that interpersonal violence has become a common part of social interaction in many domestic settings. Unfortunately, interpersonal and self-directed violence may also become a mode of behavior that is adopted by future generations who are raised in such settings.

Among younger victims, firearms play a major role in both interpersonal and self-directed violence. Handguns are used in approximately 75% of all firearm crimes and firearm suicides in the United States. While the enforcement of laws that affect the misuse and inappropriate ownership of firearms appear to have reduced the incidence of self-directed or interpersonal violence, law enforcement and public health services need to combine efforts to effectively address the issue of violence in the United States.

Unintentional injury death statistics cover a broad range of classifications--including deaths from falls, fires, poisonings, motor vehicle accidents, drowning, choking, head injuries, spinal cord injuries, sports injuries, and roadway injuries. In the unintentional injury section of this report, deaths that have occurred as a result of an alcohol-related motor vehicle crash are highlighted.

Nationally, motor vehicle crashes rank first as the leading cause of unintentional injury and account for approximately half of all deaths from unintentional injuries. Falls rank second, followed by poisoning, drowning, and residential fires. Most injuries are predictable and potentially preventable by using basic public health prevention practices. Some of the major originating factors that surround unintentional injury deaths include inappropriate use of alcohol and drugs, lack of safety education and knowledge, and lack of governmental and business safety protection and prevention. Although unintentional injuries claim more lives than chronic or infectious diseases in the first four decades of life and are among the leading causes of death in Virginia, injury prevention and safety is not currently a required health education topic in Virginia's public schools.

Although alcohol-related motor vehicle crash fatalities have declined since the 1980s, deaths that occur as a result of drunk driving are still a serious public health problem. Approximately half of all traffic fatalities that occur each year in the United States are caused by drunk drivers. Young adult drivers ages 25-34 are most likely to drive while intoxicated and are most likely to be killed in an alcohol-related motor vehicle crash. Alarming, drunk driving also occurs on the job. It is the single largest cause of death in the workplace. Aside from the tragic loss of life, motor vehicle injuries cost employers \$57 billion per year and are responsible for one in four employee lost workdays. Reducing alcohol-related fatalities would save millions of dollars in health care costs, income taxes, and public assistance annually. Educational messages in our schools, worksites, pubs, taverns, nightclubs, restaurants, and other community settings can help to save the tragic loss of life which can never be expressed in statistics or dollar values.

All injury deaths are preventable. Public health efforts to assess communities and to put forth efforts where they are needed the most can prevent the tragic loss of life that is caused from self-inflicted injury, interpersonal conflict injury, or impaired driving injury.

Intentional Injury: Suicide

There are many social and environmental factors that are associated with suicide. Communities that have higher rates of unemployment, homelessness, and other indicators of limited economic opportunity may tend to have higher rates of suicide, as compared to communities that have greater economic stability. While some believe that suicide is the result of a mental disorder, it is apparent that self-destructive behavior is a human adaptation that reflects increasing difficulty in dealing with personal problems. This is particularly true in our ever-changing society, which has seen many changes in traditional value systems.

Objective: Reduce deaths caused by suicide to an age-adjusted rate of no more than 10.5 per 100,000 population.

Suicide is the eighth leading cause of death in the United States, affecting nearly every age group. About 30,000 Americans each year, including more than 5,000 under the age of 25, take their own lives. In 1995, the age-adjusted suicide death rate in the United States was 11.2 per 100,000 population, representing 31,284 suicide deaths for that year.

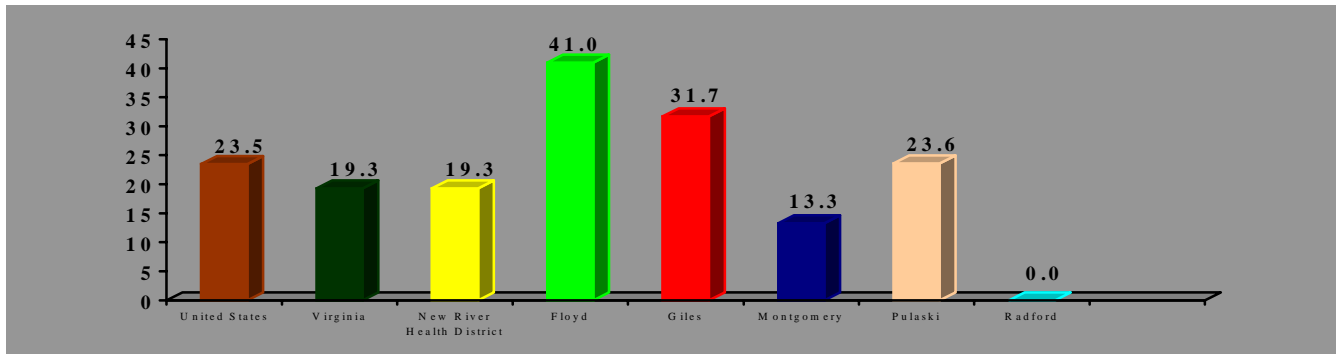
Because higher suicide rates are more common for certain groups of individuals, the following special population targets have been set for the Year 2000 Objective.

Special Population Targets

<u>Target population</u>	<u>Suicides (per 100,000 population)</u>	
	<u>1987 Baseline</u>	<u>Year 2000 Target</u>
Youth ages 15-19	10.3	8.2
Men ages 20-24	25.2	21.4
White men ages 65 and Older	46.1	39.2
American Indian/ Alaska Native men	15	12.8

In 1995, suicide was the ninth leading cause of death in Virginia. The 1995 age-adjusted suicide death rate for Virginia was 11.2, representing 809 deaths throughout the State. Suicide was the sixth leading cause of death in the New River Health District in 1995. The 1995 age-adjusted suicide death rate was significantly higher in the New River Health District than that of the Nation or the State. The Health District had an age-adjusted suicide death rate of 15.0, representing 25 suicide deaths in 1995. In 1995, the lowest age-adjusted suicide death rates in the New River Health District were in Montgomery County (10.6) and Floyd County (0.0). Localities within the New River Health District with the highest age-adjusted rates of suicide in 1995 were Giles County with a rate of 34.6, Pulaski County with a rate of 21.3, and Radford City with a rate of 14.3. The following graph contrasts the age-adjusted suicide death rates in 1995 for the United States, Virginia, the Year 2000 Objective, and the New River Health District and its localities.

***Suicide Age-Adjusted Death Rates Per 100,000 Population
United States, Virginia, Year 2000 Objective, New River Health District and Localities
1995***



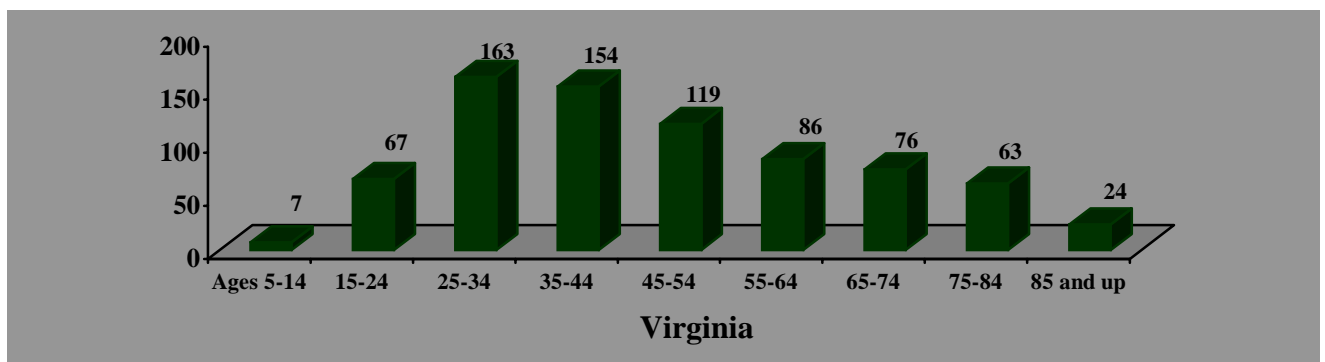
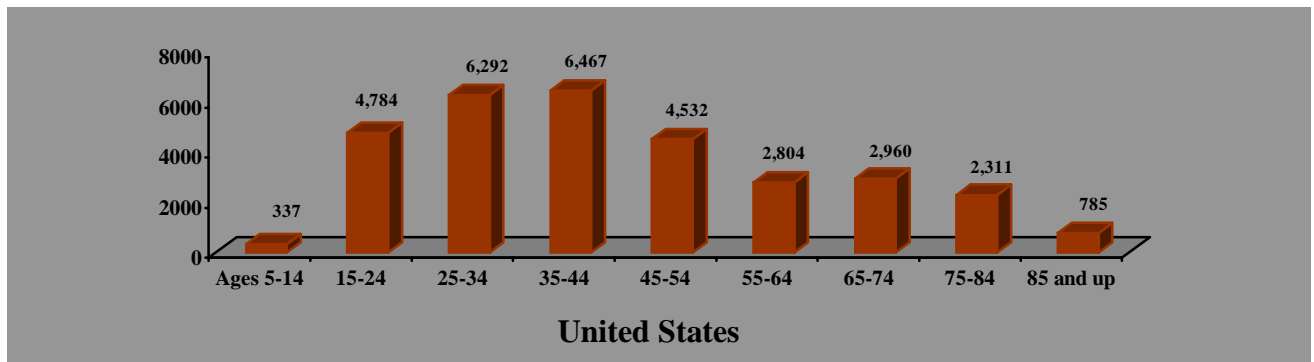
Sources: *Monthly Vital Statistics Report*, Vol. 45, No. 11, Centers for Disease Control, October 1997.

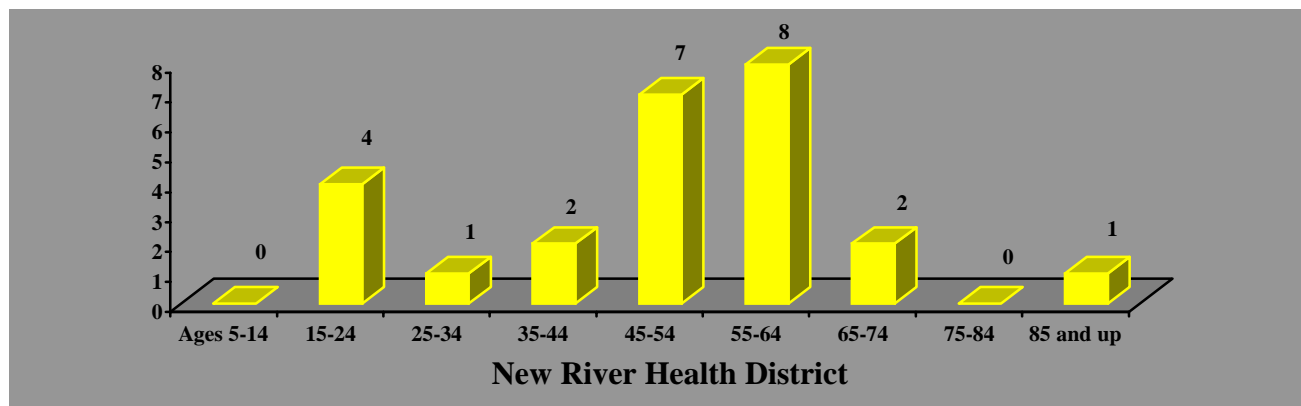
Virginia Health Statistics 1995, Center for Health Statistics, Virginia Department of Health, January 1997.

Healthy People 2000, U.S. Department of Health and Human Services, 1990.

The following graphs illustrate the number of suicide deaths by age in 1995 for the United States, Virginia, and the New River Health District. Note that in 1995, suicides in the United States and Virginia were most prevalent in the 25-44 age groups, while they were most prevalent in the 45-64 age groups in the New River Health District.

***Total Suicides by Age
United States, Virginia, New River Health District
1995***

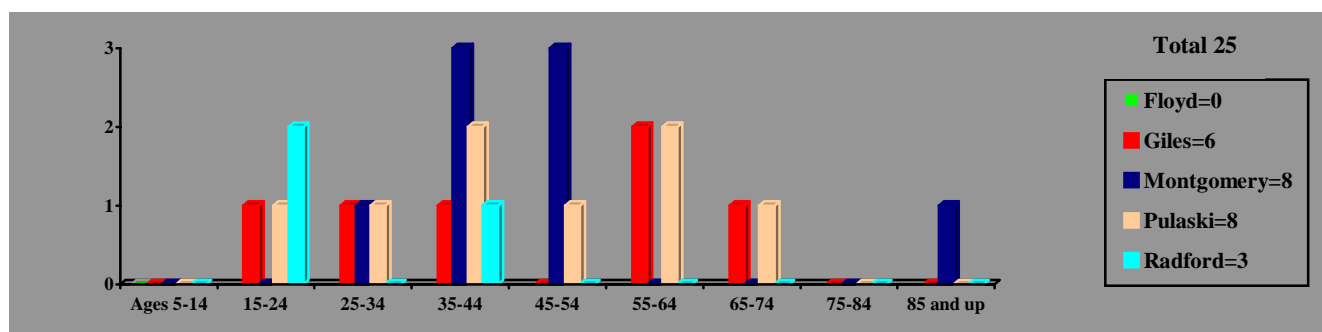




Sources: *Monthly Vital Statistics Report*, Vol. 45, No. 11, Centers for Disease Control, October 1997.
Virginia Health Statistics 1995, Center for Health Statistics, Virginia Department of Health, January 1997.

The following graph shows the number of 1995 suicide deaths by age for the localities of the New River Health District. Of the 25 suicides that occurred in the New River Health District in 1995, 13 occurred in the 44 and under age group. Fifty percent (50%) of all suicides (3) in Giles County occurred in the 60-69 age group. In Montgomery County, 50% of all suicides occurred in the 50 and above age group--with three suicides occurring in the 50-54 age group and one occurring in the 85 and above age group. In Pulaski County, 50% of the 1995 suicide deaths occurred in the 45-69 age group--with one suicide in the 45-49 age group, two in the 55-59 age group, and one in the 65-69 age group. Conversely, approximately 67% of suicides (2) reported in Radford City occurred in the 20-24 age group; and approximately 33% (1) occurred in the 40-44 age group.

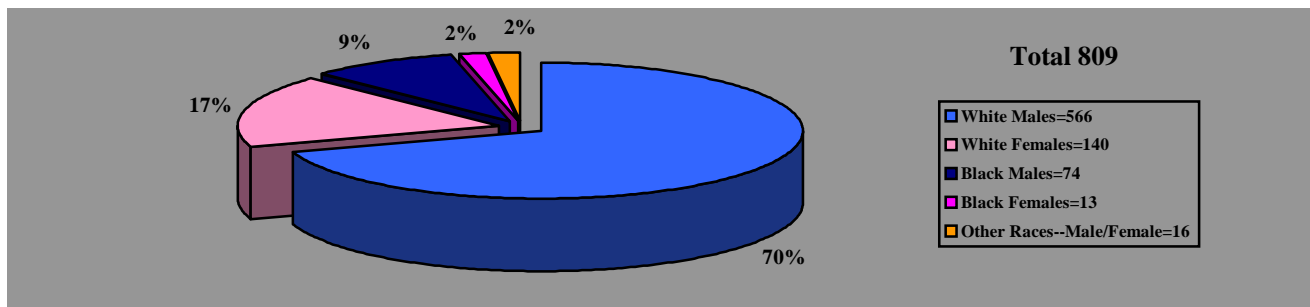
**Total Number of Suicides by Age by Localities
 New River Health District
 1995**



Source: *Virginia Health Statistics 1995*, Center for Health Statistics, Virginia Department of Health, January 1997.

As reflected in the following graph, of the 809 total suicides in Virginia in 1995, 706 (or 87%) were among the White population for an age-adjusted rate of 14.0--of those, 566 (or 70%) were among White males and 140 (or 17%) were among White females. Eighty-seven (87) or 11% were among the Black population for a rate of 6.8--of those, 74 (or 9%) were among Black males and 13 (or 2%) were among Black females. There were 16 suicides among other races--including 13 males and three females for an age-adjusted rate of 7.3 (or 2%) of total suicides in the State.

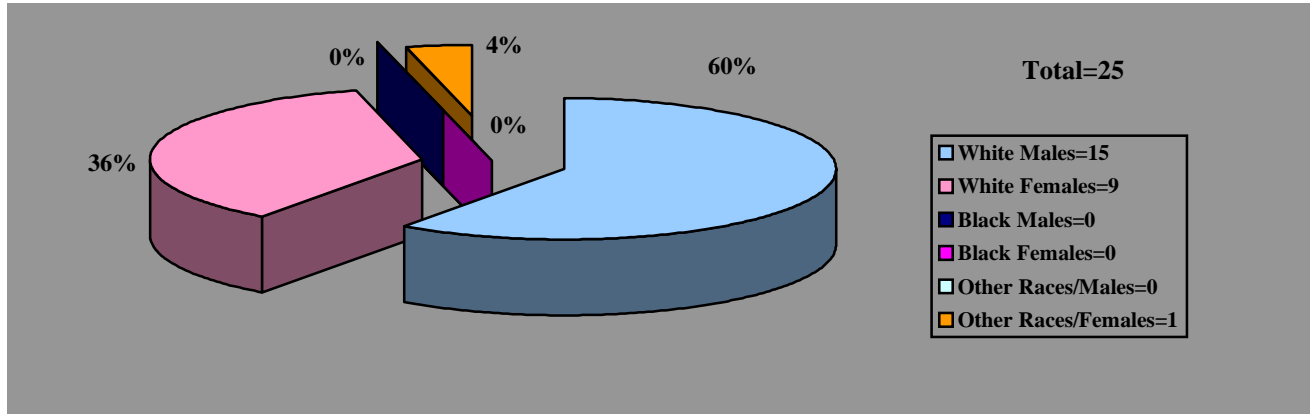
**Percentage and Total Number of Suicides by Race and Sex
Virginia
1995**



Source: *Virginia Health Statistics 1995*, Center for Health Statistics, Virginia Department of Health, January 1997.

As shown in the following graph, there were 25 suicides in the New River Health District in 1995--15 or 60% were in the White male population; nine or 36% were in the White female population; and one (4%) was reported in a female in the other race classification. No suicides were reported in the Black population of the New River Health District for that year.

**Percentage and Total Number of Suicides by Race and Sex
New River Health District
1995**



Source: *Virginia Health Statistics 1995*, Center for Health Statistics, Virginia Department of Health, January 1997.

Based on preliminary data, the New River Health District had a suicide age-adjusted death rate of 19.6 per 100,000 population in 1996. For that year, Pulaski County had an age-adjusted suicide death rate of 40.7; followed by Floyd County with a rate of 28.0; Radford City with a rate of 21.5; Montgomery County with a rate of 11.8; and Giles County with a rate of 4.4.

According to the *New River Valley Health and Human Services Needs Assessment* (1994), almost a third of the individuals who were surveyed within the New River Valley reported stress, anxiety, and depression as a major or moderate problem. While medical problems were reported as the most significant problem facing residents surveyed in most of the New River Health District in 1994, residents of Giles County reported the occurrence of stress, anxiety, and depression as the most significant problem. This represented 2,854 households (43%) of Giles County residents who were

surveyed. In Montgomery County, 36% reported moderate to major difficulties in dealing with anxiety, stress, or depression, as compared to Radford where 29% reported this problem. In Floyd, 20% reported major to moderate problems in dealing with anxiety, stress, or depression, while 19% of Pulaski residents reported this problem.

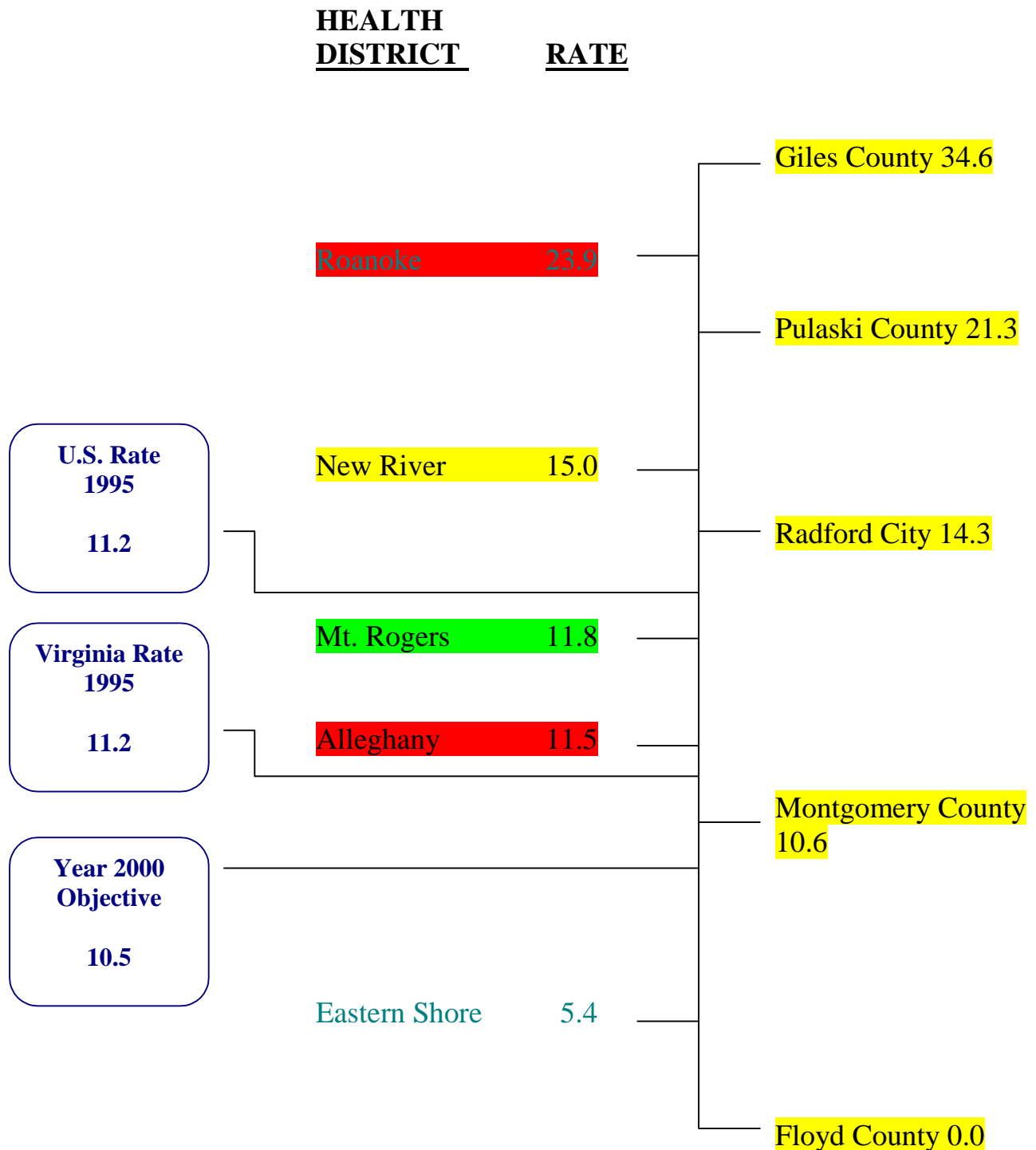
If the New River Health District is to accomplish its Year 2000 Objective to reduce the number of suicide deaths, there is a strong need for improvement in some localities. In 1995, Floyd County was fortunate to have had no reported suicides. For that year, Montgomery County had almost met the Year 2000 Objective; and Radford City had an age-adjusted suicide rate slightly higher than the Year 2000 Objective. In 1995, Pulaski and Giles counties had age-adjusted suicide death rates that were well above that of the Nation, State, and the Year 2000 Objective. Giles County's rate was over three times the 1995 national, State, or Year 2000 Objective rates.

Currently, the most promising approach to suicide prevention appears to be the early identification and treatment of individuals suffering from emotional or mental distress. Increased public awareness and access to prevention services can give hope to those who are at risk of taking their own lives. Public awareness and prevention services can also assist friends, family members, or other support persons in learning how to prevent suicide and its consequences.

What you can do:

- ❑ **Make surveillance data available to the community.** Keep abreast of public health problems in the community. The monitoring of behavioral and environmental risk factors in the community can increase awareness that suicide is a problem.
- ❑ **Take a leadership role in your community.** Take active steps to initiate, develop, mobilize, organize, and follow-through on suicide prevention activities and programs. Be proactive in the development of community partnerships.
- ❑ **Educate the community.** Facilitate the community's understanding and motivation to change risk factors, lifestyle practices, and environmental influences that affect its health. Increase awareness of the importance of seeking early treatment and counseling. Increase community awareness of the role that alcohol and drugs play in suicide risk. Seek opportunities to teach peer-resistance and decision-making skills and to promote healthy physical, mental, and emotional behaviors among the community's youth.
- ❑ **Increase preventive services in the community.** Make accessible preventive services available to the community. This includes hotlines, screening, and workshops.
- ❑ **Improve your parenting skills and be a good role model for children.** Set good examples for children. Help youth to develop positive attitudes and values in early childhood. Set and enforce rules and regulations.

Suicide Age-Adjusted Death Rates Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1995



Intentional Injury: Homicide

At least 2.2 million people are victims of violent injury each year. The United States ranks first among industrialized nations in violent death rates and deaths caused by violent or unintentional misuse of firearms--exceeding in number the combined total of some 17 different nations. Men, teenagers, young adults, and minority group members--particularly Blacks and Hispanics--are most likely to be murder victims. Homicide affects every age group and is the leading cause of death in the United States for Blacks ages 15 - 34. Since homicide affects certain populations disproportionately, special baseline objectives have been developed for these special populations. The following chart reflects the 1987 baseline rate for homicide in the United States, as well as the Year 2000 Objective for these populations.

Special Population Targets

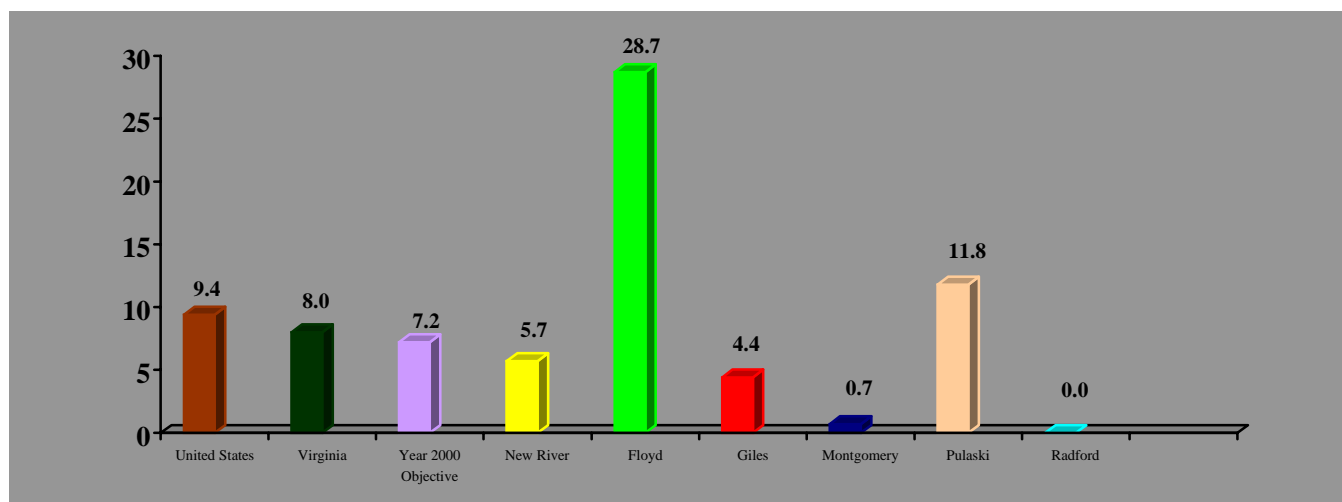
<u>Target Population</u>	<u>Homicide (per 100,000 population)</u>	
	<u>1987 Baseline</u>	<u>Year 2000 Objective</u>
Children age 3 and younger	3.9	3.1
Spouses ages 15-34	1.7	1.4
Black men ages 15-34	90.5	72.4
Hispanic men ages 15-34	53.1	42.5
Black women ages 15-34	20.0	16.0
American Indians/Alaska Natives in Reservation States	14.1	11.3

Objective: Reduce the age-adjusted homicide death rate to no more than 7.2 per 100,000 population

Homicide was the eleventh leading cause of death in the United States, accounting for 22,895 deaths in 1995. In the United States, the 1995 age-adjusted homicide death rate was 9.4 per 100,000 population. Homicide was the eighth leading cause of death in Virginia in 1995. In that year, 513 people died as a result of homicide, representing an age-adjusted death rate of 8.0 per 100,000 population.

In 1995, the New River Health District age-adjusted homicide rate was 5.7 per 100,000 population, which is below the Year 2000 Objective of 7.2 per 100,000 population. Within the New River Health District, Radford City had the lowest 1995 homicide age-adjusted death rate of 0.0, with no homicides reported for that year; followed by Montgomery County with a rate of 0.7; and Giles County with a rate of 4.4 for that year. Floyd County had the highest age-adjusted homicide rate of 28.7 per 100,000 population in 1995. This rate was three times higher than that of the Nation, State, or Year 2000 Objective for that year. Pulaski County's age-adjusted rate (11.8) was also significantly higher than the national, State, and Year 2000 Objective. The following graph reflects the age-adjusted homicide death rates for the United States, Virginia, the Year 2000 Objective, and the New River Health District and localities. It is important to note that age-adjusted homicide rates for the State, Nation, and the New River Health District and localities also include deaths from legal intervention.

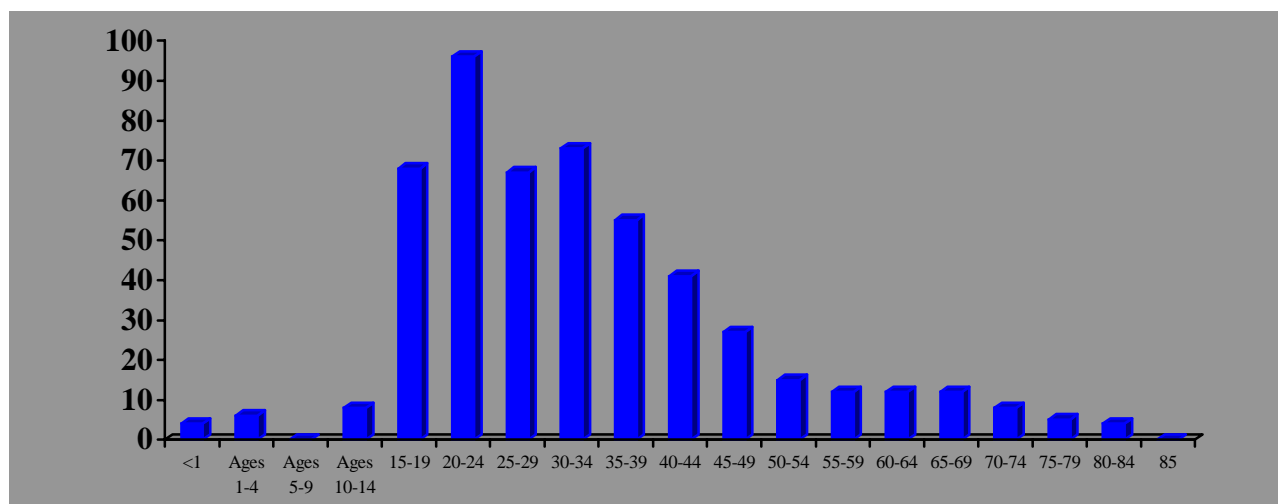
***Homicide Age-Adjusted Death Rates Per 100,000 Population
United States, Virginia, New River Health District and Localities
1995***



Sources: *Monthly Vital Statistics Report*, Vol. 45, No. 11, Centers for Disease Control, October 1997.
Virginia Health Statistics 1995-Volume II, Center for Health Statistics, Virginia Department of Health, 1997.
Healthy People 2000, U.S. Department of Health and Human Services, 1990.

As shown in the following graph, homicide affects every age group in Virginia, with the highest rates being in the 15 to 34 age group.

***Homicide Deaths by Age Per 100,000 Population
Virginia
1995***



Source: *Virginia Health Statistics 1995-Volume II*, Center for Health Statistics, Virginia Department of Health, May 1997.

The following table describes homicides by race for Virginia, and the New River Health District and localities.

***Number of Homicides by Race
Virginia, New River Health District and Localities
1995***

	<i>White</i>	<i>Black</i>	<i>Other Races</i>	<i>Total</i>
Virginia	183	320	10	513
New River Health District	8	0	1	9
Floyd	3	0	0	3
Giles	1	0	0	1
Montgomery	0	0	1	1
Pulaski	4	0	0	4
Radford	0	0	0	0

Source: *Virginia Vital Statistics 1995*, Center for Health Statistics, Virginia Department of Health, January 1997.

According to preliminary data, the New River Health District had a homicide age-adjusted death rate of 3.9 per 100,000 population in 1996. For that year, Pulaski County had a homicide age-adjusted death rate of 4.5; followed by Montgomery County with a rate of 4.4; Radford City with a rate of 2.2; and Floyd and Giles counties with a rate of 0.0 with no reported homicides.

Poverty has been identified as an extremely important factor in homicide. This strong association should activate all communities to target primary preventive interventions toward all persons in their community who live in poverty. Another important factor associated with homicide is the use, manufacture, and distribution of drugs. Violence may occur as a consequence of the pharmacological effects of drugs in economically motivated crimes that support drug use or the interactions related to the manufacturing, buying, and selling of drugs.

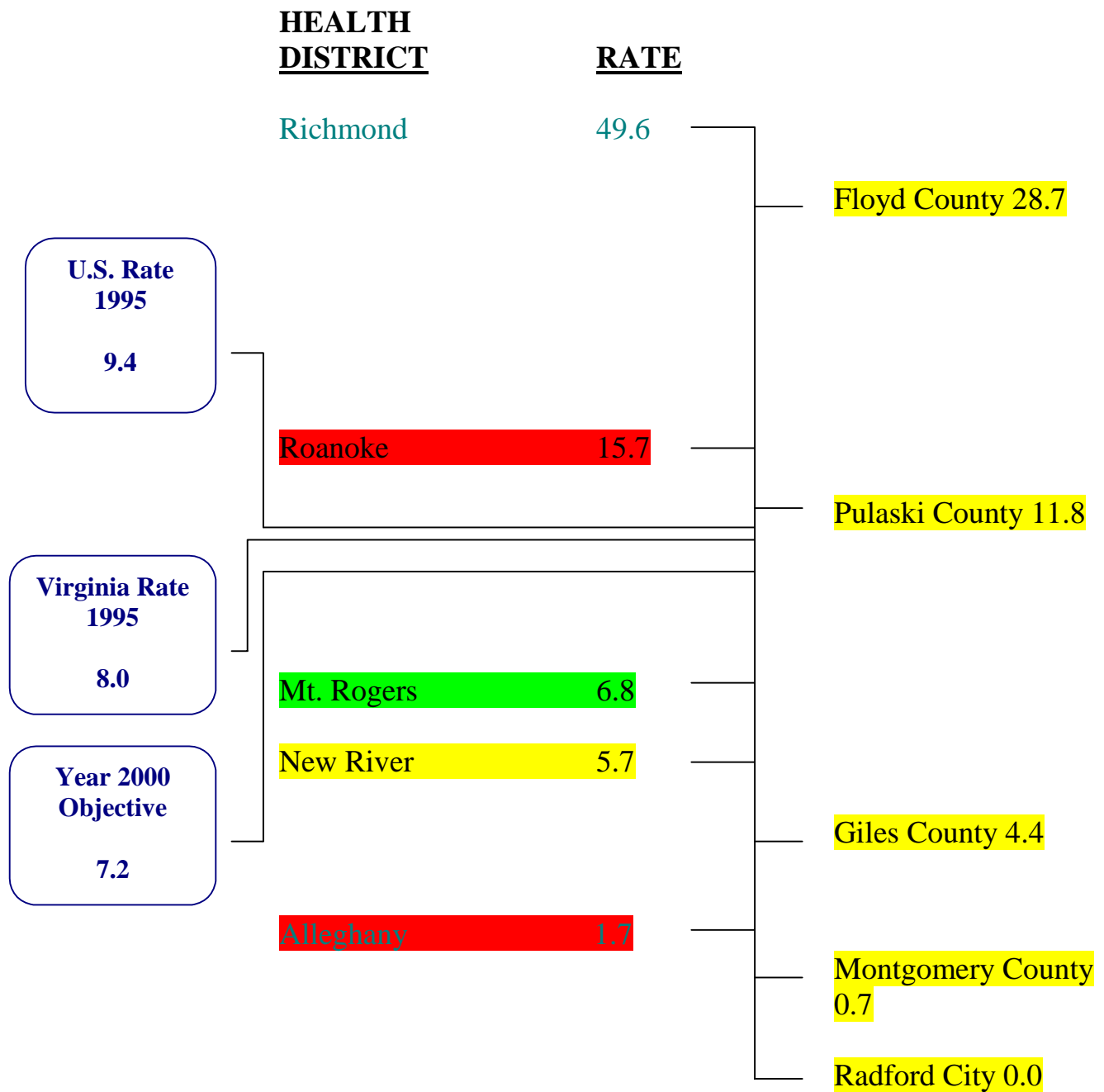
Overall, the New River Health District has achieved the Year 2000 Objective to lower the age-adjusted homicide death rate. Giles County, Montgomery County, and Radford City were fortunate to have achieved the Year 2000 Objective in 1995 and will hopefully continue to see a low number of tragic homicide deaths. Pulaski County had an age-adjusted homicide death rate that was significantly higher than the State or national rate and needs improvement to achieve the Year 2000 Objective. Floyd County had a 1995 age-adjusted homicide rate that was over three times the age-adjusted homicide death rate for the United States, Virginia, and the Year 2000 Objective and needs improvement in reducing homicide deaths in their county.

What you can do:

- ❑ **Make surveillance data available to the community.** Keep abreast of public health problems in the community. The monitoring of behavioral and environmental risk factors in the community can increase awareness that homicide is a potential problem.
- ❑ **Take a leadership role in your community.** Take active steps to initiate, develop, mobilize, organize, and follow through on violence prevention and conflict-resolution activities, programs, and partnerships in your community.
- ❑ **Educate the community.** Facilitate the community's understanding and motivation to change risk factors, lifestyle practices, and environmental influences that affect its health. Increase individual emphasis on the non-use of drugs and alcohol, as well as the non-use of firearms or other weapons. Practice conflict management skills.

- ❑ **Increase preventive services in the community.** Make available to the community accessible preventive services, such as violence and abuse hotlines, violence prevention workshops, and counseling. Enforce existing rules and regulations in the community.
- ❑ **Improve your parenting skills and be a good role model for children.** Set good examples for children. Help young people develop positive attitudes and values in early childhood. Set and enforce rules and regulations at home.

**Homicide and Legal Intervention Age-Adjusted Death Rates Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1995**



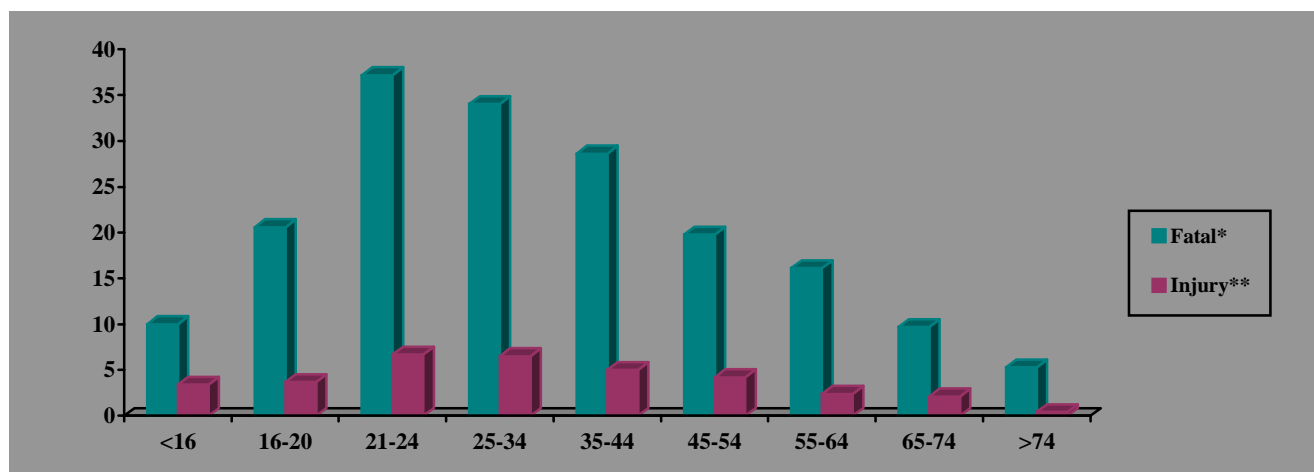
Unintentional Injury: Alcohol-Related Motor Vehicle Crash Deaths

Alcohol is a main contributor to many different kinds of human ailments and death, including deaths that occur as a result of drunk drivers. In the past decade, four times as many Americans died in drunk driving crashes as were killed in the Vietnam War. It is estimated that about 21 billion miles a year are driven drunk and that one person dies every 32 minutes in an alcohol-related motor vehicle accident in the United States. Of all 1995 fatal motor vehicle crashes that occurred after 3 a.m., 78% involved alcohol. The direct costs of alcohol-related crashes are estimated to be \$44 billion yearly. An additional \$90 billion is lost in quality of life due to these crashes.

Annually, motor vehicle crashes account for approximately 31% of deaths among young people ages 1-24 in the United States. About two in every five Americans will be involved in an alcohol-related crash sometime in their lives. Male drivers involved in fatal crashes were nearly twice as likely to have been intoxicated (21.9%) than were females (11.1%).

Driver alcohol involvement in fatal and injury crashes affects nearly every age group. As can be seen in the following graph, the highest percentage of fatal vehicle crashes in the United States were caused by intoxicated drivers in the 21-44 age groups in 1995.

*Percent of Driver Alcohol Involvement for Fatal and Injury Crashes by Driver Age
United States
1995*



* For fatal crashes, alcohol involvement is a blood alcohol concentration (BAC) of 0.01 grams per deciliter (g/dl) or greater.

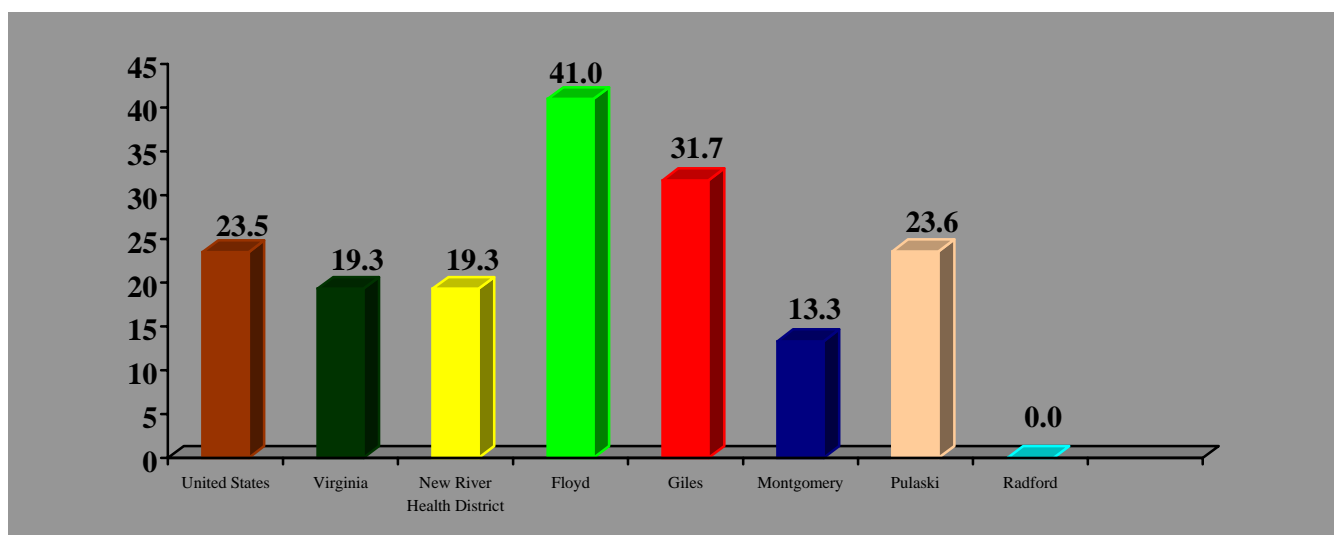
** For injury crashes, alcohol involvement is based on police-reported accidents only.

Source: *Traffic Safety Facts 1995*, National Highway Traffic Safety Administration, September 1996.

In the United States, 37,221 people were killed in motor vehicle crashes in 1995. Of these deaths, 15,386 (41.3%) were caused by an alcohol-related vehicle crash. The national age-adjusted death rate for alcohol-related motor vehicle crashes for that year was 23.5 per 100,000 licensed drivers. In Virginia, 381 people died in alcohol-related motor vehicle crashes in 1995. At 19.3, the State's age-adjusted death rate was slightly lower than that of the Nation for that year. Identically, the New River Health District had an age-adjusted death rate of 19.3 from alcohol-related vehicle crashes in 1995. This represented 21 deaths from this cause for that year.

The following graph illustrates alcohol-related vehicle crash deaths per 100,000 licensed drivers in 1995 for the Nation, State, and the New River Health District and its localities. Radford City had the lowest rate (0.0) of alcohol-related vehicle crash deaths with no deaths reported for that year. Montgomery County had a 1995 rate (13.3) that was lower than that of the Nation, State, or the New River Health District. Two localities had alcohol-related motor vehicle crash death rates that were significantly higher than that of the Nation, State, or the District. In 1995, Floyd County had the highest rate of alcohol-related vehicle crashes in the District (41.0); and Giles County had the second highest rate of 31.7.

***Death Rates from Alcohol-Related Motor Vehicle Crashes per 100,000 Licensed Drivers
United States, Virginia, New River Health District and Localities
1995***



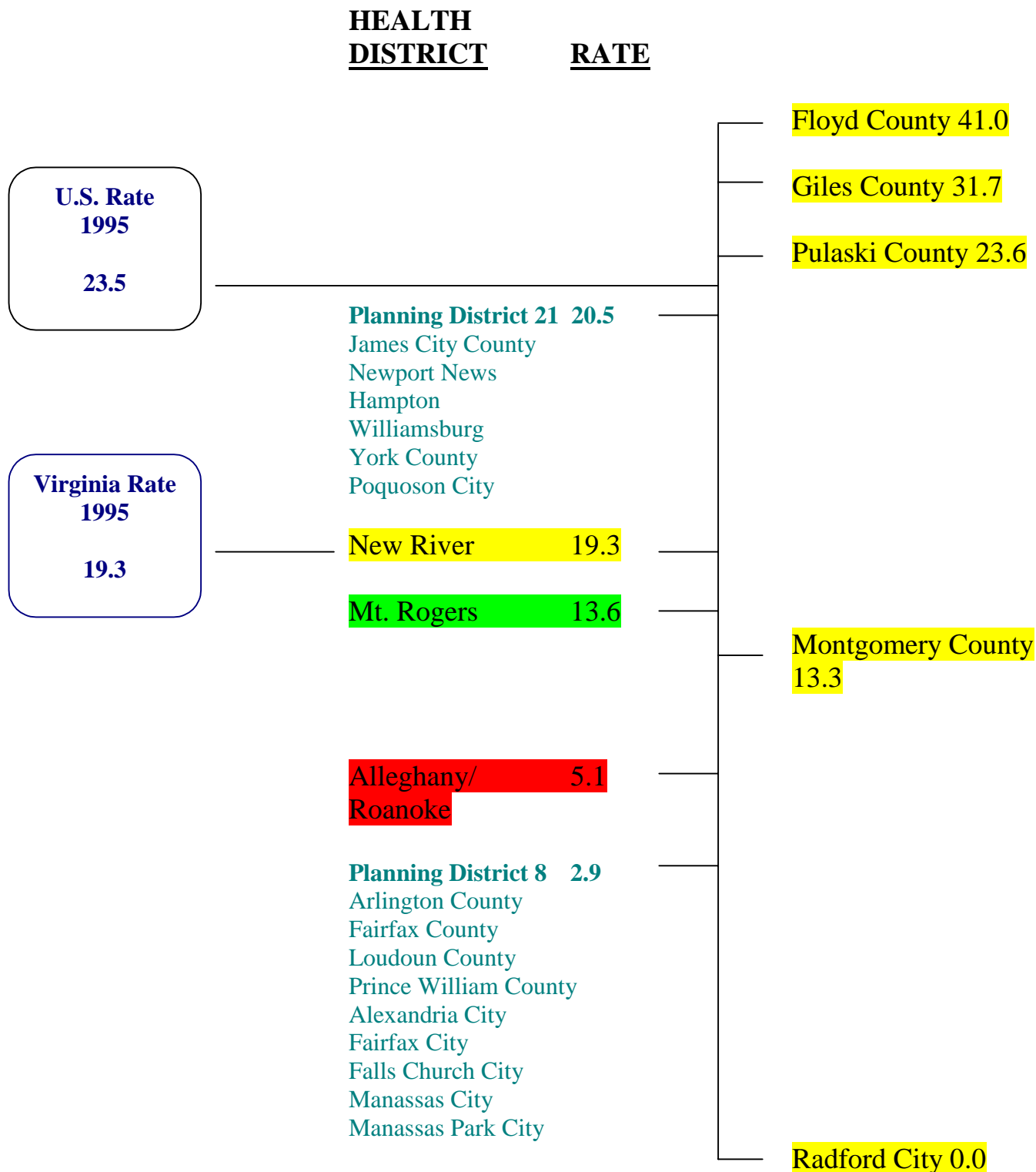
Sources: *Traffic Safety Facts, 1995*, National Highway Traffic Safety Administration, September 1996.
1995 Virginia Traffic Crash Facts, Virginia Department of Motor Vehicles, August 1997.

The New River Health District needs improvement in order to reduce death rates from alcohol-related motor vehicle crashes. Radford City was fortunate to have had no reported alcohol-related motor vehicle crashes during 1995. Montgomery County had death rates from alcohol-related motor vehicle crashes that were below the State and Nation in 1995. Giles and Pulaski counties had rates that were well above the State, national, and District rates for that year and could also benefit from prevention efforts to reduce the number of intoxicated drivers. Floyd County, with a rate of 41.0, was the highest in the District in 1995; and concentrated efforts to reduce the number should be addressed immediately. Regardless of these locality rates, ongoing prevention and awareness efforts should still be provided to all communities in the New River Health District.

What can you do:

- ❑ **If you drink, do not drive.** Always plan ahead--choose a designated driver.
- ❑ **Enhance public awareness regarding the dangers of drinking and driving--**through local organizations, the media, and other outlets.
- ❑ **Take active steps to initiate, develop, organize, and follow through on pertinent activities and programs.** Develop community partnerships.
- ❑ **Promote education about alcohol-related motor vehicle deaths** to enhance the public's understanding of the problem and the consequences of actions resulting from drinking and driving.
- ❑ **Educate the community's youth to practice healthy behaviors.** Adults should be positive role models for children. Teach children to practice peer-pressure resistance, decision-making skills, and teach them the dangers drinking and driving.
- ❑ **Enforce existing rules and regulations on drunk driving.**

**Alcohol-Related Motor Vehicle Death Rates Per 100,000 Licensed Drivers
Selected Health Districts, New River Health District and Localities
1995**



Summary

Reduction in the number of injury deaths are achievable; however, many localities in the New River Health District need to improve prevention and intervention strategies to achieve these goals.

In order to achieve the Year 2000 Objective to reduce the number of suicide deaths, there is a tremendous need for improvement in some localities. In 1995, Floyd County was fortunate to have had no reported suicides. For that year, Montgomery County had almost met the Year 2000 Objective; and Radford City had an age-adjusted suicide rate slightly higher than the Year 2000 Objective. In 1995, Pulaski and Giles counties had age-adjusted suicide death rates that were well above that of the Nation, State, and the Year 2000 Objective. Giles County's rate was over three times the 1995 national, State, or Year 2000 Objective rates.

Overall, the New River Health District has achieved the Year 2000 Objective to lower the age-adjusted homicide death rate. Giles County, Montgomery County, and Radford City were fortunate to have achieved the Year 2000 Objective in 1995 and will hopefully continue to see a low number of tragic homicide deaths. For that year, Pulaski County had an age-adjusted homicide death rate that was significantly higher than the State or national rate and needs improvement to achieve the Year 2000 Objective. Floyd County had a 1995 age-adjusted homicide rate that was over 3 times the age-adjusted homicide rate for the United States, Virginia, and the Year 2000 Objective. The County needs improvement in reducing its homicide deaths.

The New River Health District needs improvement in order to reduce death rates from alcohol-related motor vehicle crashes. Radford City was fortunate to have had no reported alcohol-related motor vehicle crashes during 1995. Montgomery County had death rates from alcohol-related motor vehicle crashes that were below the State and Nation in 1995. Giles and Pulaski counties had rates that were well above the State, national, and District rates for that year and could also benefit from prevention efforts to reduce the number of intoxicated drivers. Floyd County, with a rate of 41.0, was the highest in the District in 1995; and concentrated efforts to reduce the number should be addressed immediately. Regardless of these locality rates, ongoing prevention and awareness efforts should still be provided to all communities in the New River Health District.